STRATEGY RESEARCH PROJECT

CAN THE INSTITUTIONAL US ARMY BECOME AN ORGANIC ORGANIZATION?

BY

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CAN THE INSTITUTIONAL US ARMY BECOME AN ORGANIC
ORGANIZATION?

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ABSTRACT

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Faced with a dynamic and challenging global environment, significant budget

constraints, and the emergence of the Information Age, the US Army is currently

examining its institutional processes and current organizational structure to determine their

future relevance. This study discusses the current US Army institutional redesign efforts,

in light of general management and organizational concepts, in order to determine which

concepts are the most suitable for transforming the Institutional Army to meet the

requirements of the operating Force XXI. In addition to the discussion of the current

situation, concepts are proposed for a transformed Institutional Army as an organic

learning organization, supported by a dynamic information network.

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GLOSSARY

Chaord. Any self-organizing, adaptive, nonlinear, complex system, whether physical biological or social, the behavior of which exhibits characteristics of both order and chaos or, loosely translated to business terminology, cooperation and competition (Hock 1995)

Chaos Theory (Management). Chaos theory, one of the cutting edges of management thought today, essentially reveals a world that is characterized by a kind of randomness and a seeming absence of rules, where even small changes in the system produce huge amplified effects. You can't predict the results, and you can't control them. But on deeper examination, starting at the subatomic level, you find a core order that is beautiful and harmonious (Covey 1994).

Contingency Theory. Modern contingency theory explores the differences between organizations, rather than similarities, and seeks to explain the fit between organization design and so-called contingency factors. Three contingencies used in modern theory to measure the performance and effectiveness of the organization are size, technology and the environment (Robey 1986).

Decision Support System. DSS may be any capabilities that aid or assist the decision process, but more specifically they provide access to data and models to support unstructured problems. The focus is on the decision process involving planning and trouble-shooting (Carr 1993).

Dynamic Network. This is an adaptation of the organic matrix organization that hinges on flexible specialization and is designed to maximize the functional specialties within and outside the organization (partnerships, joint ventures, contractual arrangements). In essence, the resulting structure is a controlled interlinkage of only those parties required for the particular product or at any particular point in time. The network therefore really is dynamic, and such a pattern of flexible organization has now become common across a range of industries (Barnatt 1995).

Executive Information Systems (EIS). EIS are Management Information Systems and Decision Support Systems designed with the executive in mind in that they provide very easy access to current information needed by these managers. The EIS system is high in information content and low in data content (Carr 1993).

Field Operating Agency (FOA). An agency under the supervision of Headquarters, Department of the Army, but not a major Army command or part of a major Army command, which has the primary mission of executing policy (Army Regulation 310-25 May 1986).

Force XXI. Force XXI is the transformed Army of the 21st Century...in its entirety. The central and essential feature of this Army will be its ability to exploit information. Information and digital technologies are creating such a synergistic effect among all the operating systems, organizations and components that the Army's capability will be enhanced by an order of magnitude (OCSA DACS-LM 15 Jan 95).

Hierarchical or Mechanistic Organization. Mechanistic or hierarchical organizations are commonly referred to as bureaucracies. The outstanding feature of the mechanistic organization is its predictability. In the extreme form every task is preplanned and quantity and quality of task performance is highly regulated. A highly specialized system of roles, clear reporting relationships, and an unambiguous reward system achieves this stability. Ambiguity and confusion are nonexistent (Pinchot and Pinchot 1994).

Institutional Army or Table of Distribution and Allowances (TDA) Army. It is the Institutional Army that is charged to prepare for military operations by delivering forces ready to conduct prompt and sustained land combat, to sustain them throughout the duration of the operations and to recover them upon completion of operations. The Institutional Army is distinct from the warfighting forces or operating forces of the Army which will not be addressed in this paper (Draft Army Pamphlet 100-XX Sep 1995).

Institutional Army Title 10 Functions. Recruit, Train, Organize, Mobilize, Demobilize, Equip, Maintain, Supply, Service Construct, Administer (Draft Pamphlet 100-XX Sep 1995).

Learning Organization. The learning organization is an organization that is continually expanding its capacity to create its future. It is based upon five disciplines that are systems thinking; mental models; personal mastery; shared vision and team learning (Senge 1990).

Major Army Command (MACOM). A major subordinate headquarters directly subordinate to, established by authority of, and specifically designated by Headquarters, Department of the Army. Examples of a MACOM are Army component commands of unified and specified commands (Army Regulation 310-25 1986).

Matrix Organization. A matrix organization is an organizational design that is a team-based design that provides a functional (vertical) focus through the existing structure and a product (lateral) focus through the teams. In some team-based organizations, work is accomplished by the voluntary collaboration of team members from various functional areas...vertical and lateral lines both carry formal authority (Robey 1986).

Management Information Systems (MIS). MIS take data from Transaction Processing Systems and transform it into information to support the basically structured decision process. These capabilities produce scheduled reports and provide the basis of information used by middle and upper management for the management control function. The focus of MIS is information (Carr 1993).

Office Automation System (OAS). OAS brings technology to the office and to knowledge workers. The emphasis is on automation support in the use of information (Carr 1993).

Organic System. Organic seems to be an appropriate descriptive term to use in defining the polar opposite of a mechanistic organization, with broadly defined jobs, few rules or procedures, diffuse channels and a subjective reward system. Organic implies a fluid quality, more like a living organism than a machine. Organic systems adapt more readily to changing external conditions because their structures are flexible. They interpret novel situations and adopt appropriate coping responses (Robey 1986).

Organization. An organization is a system of roles and stream of activities designed to accomplish shared purposes. The phrase, system of roles, describes the structure of an organization. Stream of activities refers to organizational processes. Two other terms, design and shared purpose, are also important to this definition (Robey 1986).

Organizational Culture. Each human group and organization...family, civic association, school, church, government, army, business...has a particular way of functioning that sets it apart from other groups. It also possesses beliefs as to what is important in life and expectations about the behavior of its members. These are the components of culture that are learned and transmitted across generations. Culture confers identify on the group (Shein 1989).

Organizational Culture (Army). A system of shared values, assumptions, beliefs, and norms that unite the members of an organization (Field Manual 22-103 July 1995).

Reengineering. The fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed. It is a by-product of an

organizational transformation effort by an organization (Hammer and Champy 1990).

Staff Support Agency (SSA). An agency at Headquarters, Department of the Army (HQDA) level which exists primarily to support and assist HQDA, and which would not exist in the absence of HQDA. A staff support agency assists in the formulation of policies and procedures or provides necessary administrative and/or logistical support for Headquarters, Department of the Army (Army Regulation 310-25 May 1986).

System. System denotes interdependency, interconnectedness, and interrelatedness of a set of elements that constitute an identifiable whole or gestalt (French and Bell 1995).

Title 10. Title 10 (Armed Forces) of the United States Code-Section 3062. Title 10 states, it is the intent of Congress to provide an Army that is capable in conjunction with the other Armed Forces, of preserving the peace and security...of the United States...supporting the national policies...implementing the national objectives...and overcoming any nations responsible for aggressive acts that imperil the peace and security of the United States. (The Army) shall be organized, trained, and equipped primarily for prompt and sustained combat incident to operations on land...(and) is responsible for the preparation of land forces necessary for the effective prosecution of war except as otherwise assigned and, in accordance with integrated joint mobilization plans for the expansion of the peacetime components of the Army to meet the needs of war (Draft Army Pamphlet 100-XX Sep 1995).

Total Army Quality (TAQ). TAQ is a leadership philosophy and management approach. It is a leadership philosophy which empowers all individuals to build on the aggregate capabilities of our quality Army (Army Regulation 5-1 June 1992).

Total Army Values. The Total Army Values are captured in the four individual values of commitment, competence, candor and courage that serve as solid guides for Army managers at all levels on how to behave and make decisions. The individual values reinforce the institutional values of duty, integrity, loyalty, and selfless service (Army Regulation 5-1 June 1992).

Transaction Processing Systems (TPS). TPS are capabilities designed to capture and store data on the activities of the organization. These were the first systems to be computerized. TPS are installed to store the basic activity of the organization in a way that is readily accessible by individuals and other systems. The focus of TPS is data (Carr 1993).

"Can the Institutional US Army Become an Organic Organization?"

Give me a Lever Long Enough...and Single-handed I can Move the World.
Archimedes

It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things.
Machiavelli

Introduction

The above quotations represent two perspectives concerning the difficulty of creating change, one extremely optimistic and the other extremely pessimistic. This study used the two perspectives as a focal point. The first perspective is a vision of what the Institutional Army must become in order to support the innovative, technology and information-based Force XXI. This insight was the impetus to undertake this project. The second perspective is the reality of what the current Institutional Army bureaucracy has become, and how difficult it would be to convince others that it was possible to change it.

General

When Mr. Dee Hock, Founder, President and CEO Emeritus of VISA Corporation, spoke at the US Army War College (USAWC) in August 1995, he discussed the chaos theory, the Information Age and the looming failure of traditional bureaucracies in the new and changing environment. Hock based his presentation upon his article "The Chaordic Organization: Out of Control and Into Order" (Hock 1995).

Hock's (1995) discussion of his chaordic organization caused the researcher to reflect on the Headquarters Department of the Army (HQDA) approach in developing and testing the Installation Status Report (ISR). The ISR is a decision support system

designed to measure the conditions of infrastructure, environment and services across all Army installations. The US Military Academy Operations Research Center (ORCEN), under the guidance of the Office of the Assistant Secretary of the Army (Financial Management and Comptroller) (OASA (FM&C), conceived this holistic system. As documented in the ORCEN ISR After-Action reports, dated July 1994 and January 1996, the OASA (FM &C) and the ORCEN used a matrix team structure to develop and test the ISR. Representatives from HQDA, the US Military Academy, seven Major Army Commands (MACOMs), 25 diverse installations, and a small engineering firm, comprised the team. This team was able to design, test and implement the ISR system within two and a half years. The approach was effective, efficient and most importantly, achieved a buy-in from all levels of the Army. The team appeared to function well using electronic mail, fax machines, telephonic coordination, video-teleconferences, groupware and on-site visits to develop the ISR system. By the fall of 1995, the ISR team had gained the approval of the Chief of Staff, Army to implement both the infrastructure and environmental parts of the ISR throughout all CONUS installations. The researcher determined that this "out of the box" approach to developing, gaining acceptance, and ownership of an Army innovation, should be institutionalized within the Army. It was also clear that this approach was similar to the workings of the chaordic organization described by Hock (1995).

A review of the literature confirmed the researcher's experiences that there is a need to review the Institutional Army's redesign effort, and reexamine current management and organizational design theories. Accordingly, the purpose of this

Strategic Research Project (SRP) is to examine futuristic organizational models in order to contrast their suitability as compared to the current Army hierarchical model, as described in Department of the Army Pamphlet 10-1.

Due to the magnitude and complexity of the US Army, the researcher limited the study to the Institutional or TDA Army and its responsibilities as defined under Title 10, USC Section 3062. The Institutional Army is distinct from the Warfighting or operating forces of the Army; the paper will not examine organizational change for the Warfighting forces. The study will take a macro perspective of the issue, that is, at the major levels of the Army (HQDA, Major Army Commands (MACOMs). The study suggests a conceptual framework to transform the Institutional Army's culture; management and human resource practices; processes; information systems; and organizational structure into a smaller and more flexible institution designed to support Force XXI.

Definition of Terms

The glossary at the front of this study defines terms that are common to the US Army redesign and current management and organizational literature.

Environment

The Army currently faces a dynamic and challenging global environment, significant budget constraints, and the emergence of the Information Age. This environment is key to the Army's redesign efforts, because it frequently dictates the tasks that an organization must perform, and is the source of resources upon which the organization will depend (Robey 1986). In consonance with Robey's perceptions on the

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environment as the source of resources, the draft redesign document for the US Army

states

> Defense outlays as projected from 1990 through 1999, show a 35%
> reduction...the inexorable growth of debt interest and the political sensitivities of
> reductions to entitlement programs make it inevitable that extraordinary pressure
> will be put on the defense budget as efforts to control the deficit gather strength.
> Therefore, the downward trend of defense outlays, projected through 1999, can be
> expected to get worse, not better, after the turn of the century (Draft Pamphlet
> 100-XX Sep 1995).

A new acronym developed by the Army describes the complexities found in

today's and in future external environments. VUCA stands for volatile, uncertain,

complex and ambiguous. Today's VUCA environment is projected to make the

Institutional Army's tasks far more uncertain, and could challenge its responsiveness and

ability to adapt to change (Draft Pamphlet 100-XX Sep 1995).

Review of the Literature

General

The literature search for this paper was conducted using documents from the

official Institutional Army redesign efforts as prescribed by HQDA Force XXI

Institutional Army Redesign draft Pamphlet 100-XX dated September 25, 1995 as well as

a review of the current literature in the areas of management, organizational theory,

organization development and transformation. Additionally, the evolving discipline of

quantum management was used to explore a more futuristic orientation for the issue under

review.

Institutional Army Redesign Efforts

Upon completion of the final report of the Commission on Roles and Missions of

the Armed Forces (CORM) in March 1995, the Secretary of Defense tasked the Military

Departments to examine their internal structures (White Memorandum 25 Aug 1995).

Simultaneously, the Louisiana Maneuvers (LAN) Task Force identified a requirement to

redesign the Institutional Army to support the Force XXI (OCSA DACS-LM Memo

1995). The result is an umbrella redesign effort that encompasses HQDA, MACOMs and

other elements of the Institutional Army. Along with this redesign effort, the Chief of

Staff, Army (CSA) also tasked the Army Strategic Fellows to develop an efficiency review

strategy for Army business processes (OCSA DACS-ZA Memo 1995).

The Army developed a plan to achieve its objective of a totally transformed Army

of the 21st Century, Force XXI. The plan includes three complementary and interactive

efforts that are: the redesign of Army operational forces; the reinvention of the

Institutional Army; and the development and acquisition of information-age technologies

(OCSA Memorandum 15 Jan 1995). Progress toward these phases is underway.

A separate plan for evolving the Institutional Army, establishes its mission as "to
reengineer and redesign the Institutional Army by the year 2000 to effectively and
efficiently perform service Title 10 functions" (Spiegel and Burnett 1995). This
Institutional plan identifies business principles for application to the reengineering and
redesigning efforts.

A general unconfirmed summary of interviews conducted during December 1995,

with members of the umbrella redesign group and the HQDA Redesign Task Force,

revealed that results were not as productive as expected. The emergent issues that evolved from this coordinated effort were:

1. Not all Functional Area Assessments (FAAs) utilized a business approach resulting in mixed reengineering efforts.

2. Efforts of the redesign groups were not fully integrated.

3. There was little consideration of information technology, of team building, or of organizational designs other than the traditional hierarchical model.

4. The linkage between the HQDA core capabilities and the missions of the FOAs and SSAs was convoluted. This situation resulted in successful resistance to change and failure to identify functions and staffing for elimination.

5. Politics and resistance to change exist between and among members of the Army Secretariat and Army Staff. However, the HQDA Redesign team did propose several consolidations of functions between the Secretariat and the Army Staff in accordance with the guidance in the CORM (Interviews 1995).

All of the recommended HQDA redesigns (HQDA Redesign 1995), were hierarchical structures that resulted in approximately 10% personnel savings. A reliable but unconfirmed source reported that in February 1996, the CSA directed that the redesign team re-study the proposals, and develop alternatives that provide 40% personnel savings. To provide a more theoretical basis for this study, a review of the management literature follows.

Current Organizational and Management Considerations

The Industrial Age marked the beginning of a formal management approach to obtaining the most efficient and effective workplace for organizations to conduct business. The search and controversy for the best organizational design and management approach continue today, spurred by the rapid changes brought about by the Information Age (Robey 1986).

Chaos Theory and Related Implications of the Information Age

Chaos theory provides an understanding of a key dilemma facing organizations today, namely that of redefining "command and control". Understanding this dilemma appears to be essential in understanding the total transformation facing complex organizations like the Institutional Army.

As discussed above, Hock (1995) introduced the linkage between Chaos and Organizational theory. Hock (1995) believes we are living in a time of institutional failure, brought about by the Information Age and the resulting compression of time and events. What we have lost is a change float namely, that time "between what was and what is to be, between past and future. Today, the present hardly exists at all, everything is change..."(Hock 1995).

According to Hock (1995), there has been one important exception...there has been little loss of organizational float, or the time that an organization takes to process information and arrive at a decision. This is occurring since organizations remain relatively unchanged from what they were centuries ago..."*they are vertical and hierarchical in*

nature, bent on centralized command and control, and laced with routinized practices

and enforced conformity" (Hock 1995).

In response to this institutional crisis, Hock (1995) created a new organization and

named it a chaord, that is, an organization that is characterized by both chaos and order.

The living example of this organization is VISA. The challenge of designing an

organization that could deal with such complexity led Hock (1995) and his colleagues, to

biological concepts and methods. Hock (1995) and his small design team decided..."It

would have to evolve...in effect, to invent and organize itself." Five of the simple

principles that emerged from the reconception were:

1. It must be equitably owned by all participants.
2. Power and function must be distributive to the maximum degree.
3. Governance must be distributive.
4. It must be infinitely malleable yet extremely durable.
5. It must embrace diversity and change (Hock 1995).

Stephen R. Covey, author of the <u>Seven Habits of Highly Effective People</u> is also

comfortable with the Chaos theory. Covey (1994) states

> The significance of this principle in managing an organization is that if
> there is a Strange Attractor...that is, a common vision, sense of meaning,
> strategy and value system based upon principles that ultimately control
> anyway, then we will see people managing themselves according to the
> Strange Attractor. *..The great paradox is that you're going to have chaos if you*
> *try to control people (Covey 1994).*

According to Covey (1994), the "Strange Attractor"(shared vision) is seen to

make a difference in relationships within an organization.

> People and teams become more self-managing, since they all have a
> common value system, a common strategic intent, and a common sense of
> vision....That commonness attracts them and enables them to bond...People will
> subordinate their own egos and work for a higher purpose (Covey 1994).

Covey (1994) interviewed many executives who worked with Malcolm Baldridge

National Quality Award winning companies. They all stated that their hardest challenge

was to give up control. His observations were that

> They all feared losing control, but they found that their fear was
> groundless. They thought they were going to have chaos. The opposite
> happened. Again, this is the great paradox of leadership: you give up control,
> and you gain it (Covey 1994).

Another believer in the application of the chaos principles to organizations, is

Margaret Wheatley, author of Leadership and the New Science. In an interview in a

recent CIO magazine, Wheatley describes what she means by "deengineering"...a kindlier,

gentler way of letting the organization find its own shape as opposed to dictating it from

above. Wheatley comments that

> Deengineering for me is understanding that what we need to change
> is the way we change. It's a question of do we think of organizations as inert
> machines that we can engineer or do we think of them as living, dynamic
> systems, collections of forces that can work together or not? Once you switch the
> metaphor from machine to dynamic force, you get into a whole new territory, and
> the question becomes how do you create the conditions by which this living
> system will continuously adapt, will seek itself, will seek to thrive in its
> environment (Buchanan 1994)?

Wheatley says that the challenge for organizations is to create boundaries around

people's behavior but not to over manage how they actually do things. Wheatley cites the

US Army's use of information technology on the battlefield, as a leading edge example of

creating boundaries around behavior patterns. In regards to the Army she observed that

> They now have the technology to move information down to the lowest
> level so that it is possible for the men inside tanks to have as much information
> about the battle going on as their commanders have. The general staff knows
> from experience that when they give information down to the smallest units, they
> get the most effective responses, so they don't seem to need as much traditional
> command and control. But once you give that information to tank crews, and they
> start working for their own safety and their own victory, how are they going to

respond to commands outside of the tank situation? And what happens to battle strategy? Is it in the head of the commander, or do you just train crews and have them figure it out for themselves as the situation demands (Buchanan 1994)?

The Army Special Forces units are another of Wheatley's examples. In this regard

she says

> These forces are called on to intervene early in a conflict or to defuse a dangerous situation to prevent open conflict. Swift response and secrecy are paramount; the stakes are high, sometimes affecting U.S. or even world security. Men are sent out individually or in small teams. Frequently, they have no communication with their commanders. The challenge is this: How do commanders ensure that these young men will make wise decisions once they are on their own? The answer has been both to build the technical expertise of these agents and to embed in them a deep sense of values (Wheatley 1994).

Carrying the example of the Special Forces to a higher organizational level, it is

evident that this climate of trust also exists at the Headquarters US Special Operations

Command (USSOCOM). This is reflected in the Commanding General's Reinventing

License shown at Figure 1. The learning organization, that will be discussed next,

provides a look at more of the fabric or character of future organizations.

Learning Organization

Peter Senge (1990), in his book The Fifth Discipline, developed the concept of the

learning organization. Fortune magazine identifies this organization as the "organization

form of the 1990s" (Senge 1990). As the Army strives to develop the organization form

that will meet its requirements, an understanding of Senge's learning organization

becomes a possible source for a solution. Senge's learning organization is distinguished

by five design characteristics of which four will be discussed:

1. Systems thinking is the cornerstone of the learning organization. Senge

(1990) likens systems thinking to the pattern of a rain storm...clouds massing, sky

REINVENTING LICENSE

Is it the right thing for our country? Our forces?
Is it consistent with our organization's values?
Is it legal and ethical?
Is it something you are willing to be accountable for?
If the answer is YES to all of those questions,
DON'T ASK PERMISSION, JUST DO IT!

Wayne A. Downing
General, U.S. Army
Commander in Chief

UNITED STATES
SPECIAL OPERATIONS COMMAND

MISSION: Prepare Special Operations Forces to successfully conduct worldwide special operations, civil affairs, and psychological operations in peace and war in support of the Regional Combatant Commanders, American Ambassadors and their Country Teams, and other government agencies.

WE VALUE: Our people, creativity, competence, courage, and integrity.

Figure 1. US Special Operations Command Reinventing License

darkening, rain, runoff feeding into groundwater, and the sky growing clear again. All these events are distant in time and space, but they are connected within the same pattern. You can only understand the system of a rainstorm by contemplating the whole. Senge (1990) believes that businesses, organizations and other human endeavors are also systems.

According to Senge (1990) one of the most important facets of systems thinking is leverage, i.e., seeing where actions and changes in structures can lead to significant and enduring improvements. Another important aspect of systems thinking is understanding circles of causality. Circles make up reality but we see straight lines (Senge 1990). This limits our ability to be systems thinkers.

2. Personal mastery is the spirit of the learning organization. The active force within organizations is people, specifically people who have their own mind, will, and their own way of thinking (Senge 1990). Personal mastery is the phrase which Senge (1990) and his colleagues use for the discipline of personal growth and learning.

3. Shared Vision is the binding of people together around a common identity and sense of destiny--a shared vision uplifts people's aspirations (Senge 1990).

4. Team Learning is vital because teams are the fundamental learning unit in modern organizations. Senge states

> There has never been a greater need for mastering team learning in organizations than there is today. Whether they are management teams or product development teams or cross-functional task forces...teams are becoming the key learning unit in organizations (Senge 1990).

It would appear that organizational culture is related to Senge's (1990) disciplines, and is another important consideration in organizational redesign.

Organizational Culture

Interest in organizational culture is growing as managers are reexamining the way their

organizations do business (Shein 1989). The McKinsey framework (Peters and Waterman

1982) at Figure 2 explains the significance of culture and the way it brings consistency to

the total organization (Shein 1989).

> In this framework, culture, expressed as shared values, is central to the
> company. The McKinsey concept suggests the pervasive nature of core
> values...they have impact on all functions, levels and units in the organization
> (Shein 1989).

Therefore, in examining potential redesigns for the Institutional Army, it is extremely

important to understand how culture brings consistency to the Army. As stated by Carl

Builder in The Masks of War, the Army's culture has much to do with its roots in its

citizenry and its history of service to the nation.

> Out of the Army's long and varied service to our nation, tested and
> tempered through 200 years of peace and war, have emerged certain fundamental
> roles, principles and precepts--they constitute the Army's anchor in history, law
> and custom, suggesting the sources of its present strength and the trust and
> confidence of the nation in the essential role of the Army (Builder 1989).

According to Builder (1989), these ideas represent who the Army thinks it is--and what it

believes in.

The core values that comprise the Army ethos are duty, integrity and selfless

service (FM 22-100 1990). These qualities are demanded of all soldiers from private to

general, and also of civilians. (FM 100-1 1994). Although the Army Field Manual

includes civilians in this ethos, it might be well to examine this more closely to

determine whether this is lip service or whether civilians are held accountable to the same
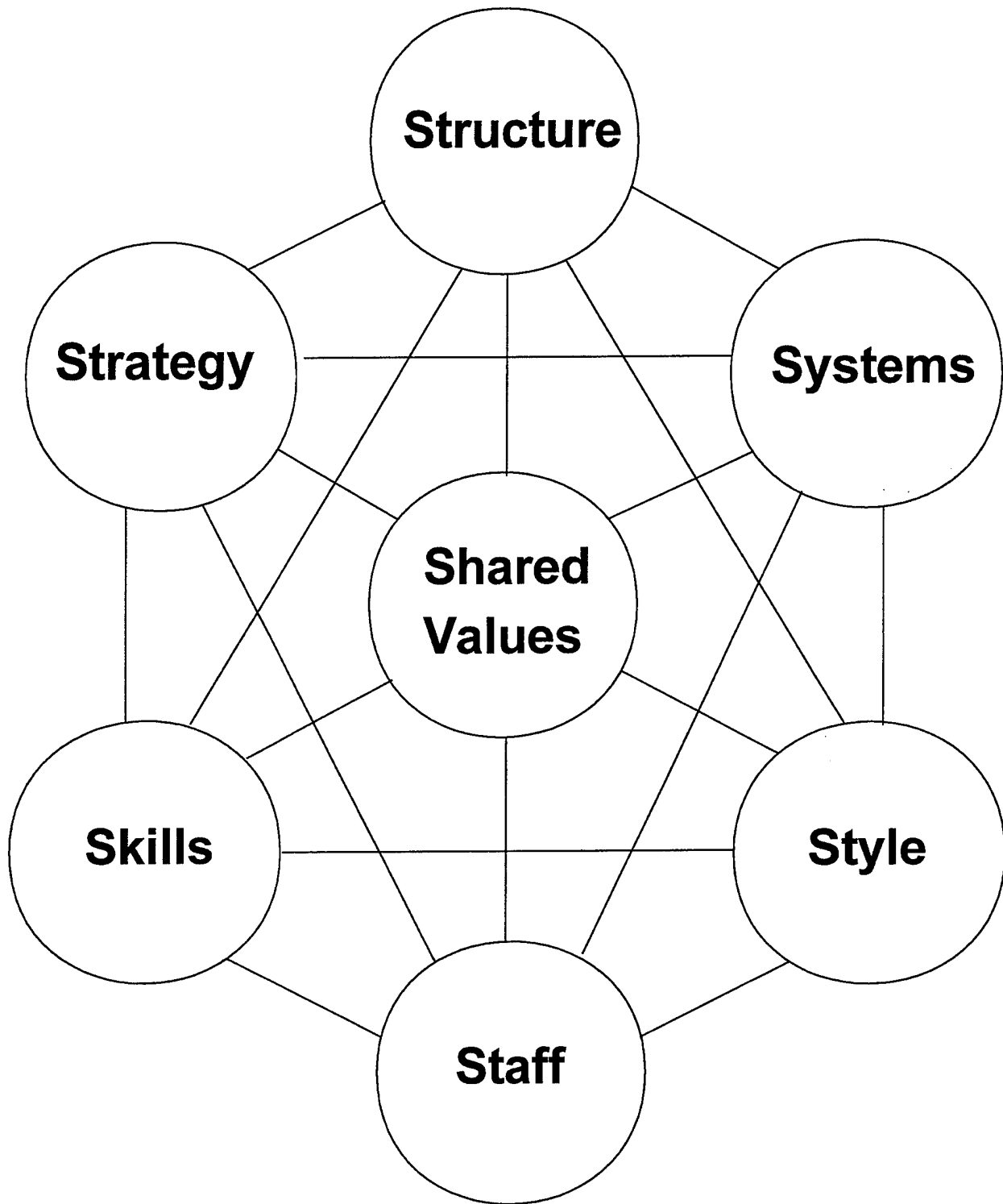
standards as the military.

Figure 2. McKinsey 7-S Framework

According to Shein (1989), cohesive organizational cultures are nurtured, reinforced, and mobilized to support today's demands for innovation, flexibility and ever-increasing levels of productivity and quality. "When faced with the need to manage change, many firms are now convinced that knowing the culture is key to changing it (Shein 1989)."

Reengineering

There is a strong relationship between reengineering and redesigning an organization. Many people hold that the redesign of the organization is dependent upon the outcome of the reengineering effort. However, others like Wheatley (Buchanan 1994), feel that reengineering is too mechanistic and that people and their activities should evolve to suit the demands of a changing environment. Despite this debate, what is clear is that in order for an organization to rid itself of irrelevant and costly practices, it should undertake a basic review of core processes. While a thorough review of Title 10 Army core processes is underway as part of the FAR process, the question that remains is... "Once this reengineering is complete, which type of organizational design will be overlaid to the reengineered Army--the hierarchical or organic?"

Innovation

The resource constrained external environment discussed above, and the CSA's emphasis on achieving Army innovations and efficiencies leads one to examine the relationship between innovation, environmental uncertainty and organizational structure. According to Robert D. Russell (1990),

> There is empirical support for linking increased levels of innovation with environmental uncertainty and the structural characteristics of decentralization,

complexity and low levels of formal rules and procedures (informal structures)...
(Russell 1990).

One of the inferences from Russell's (1990) research sample of 245 firms to determine

what fostered innovation within organizations, was that

> The interaction between environmental uncertainty and structure supports
> basic innovation contingency theory in that it confirms a positive association
> between the number of innovations successfully adopted and the interaction
> between increased uncertainty and an organic structure (Russell 1990).

General Organization Designs

Robey's (1986) definition of an organization provides a good framework to discuss

organizational types as an extension of the topics previously discussed under

organizational and management considerations. Robey (1986) describes organizations as

social instruments designed by human actors... designed to organize human activities in

one way or another presuming some strategic purpose (the reason why the organization

exists). This description implies that an organization is a living structure, composed of

people and streams of activities. Robey (1986) goes on to define formal organizational

structure but cautions about becoming too strict with its use. He states

> Organization structures can be understood in static terms by
> drawing organization charts, defining job descriptions and control mechanisms,
> and grouping people into departments. Structures are relatively enduring,
> persistent, and regular, making them fairly easy to understand, study and design.
> However, we must realize that structure is regular patterns of human activities and
> those decisions about structural design, affect action and behavior (Robey 1986).

Figure 3, a continuum of organizational designs from the hierarchical to the organic,

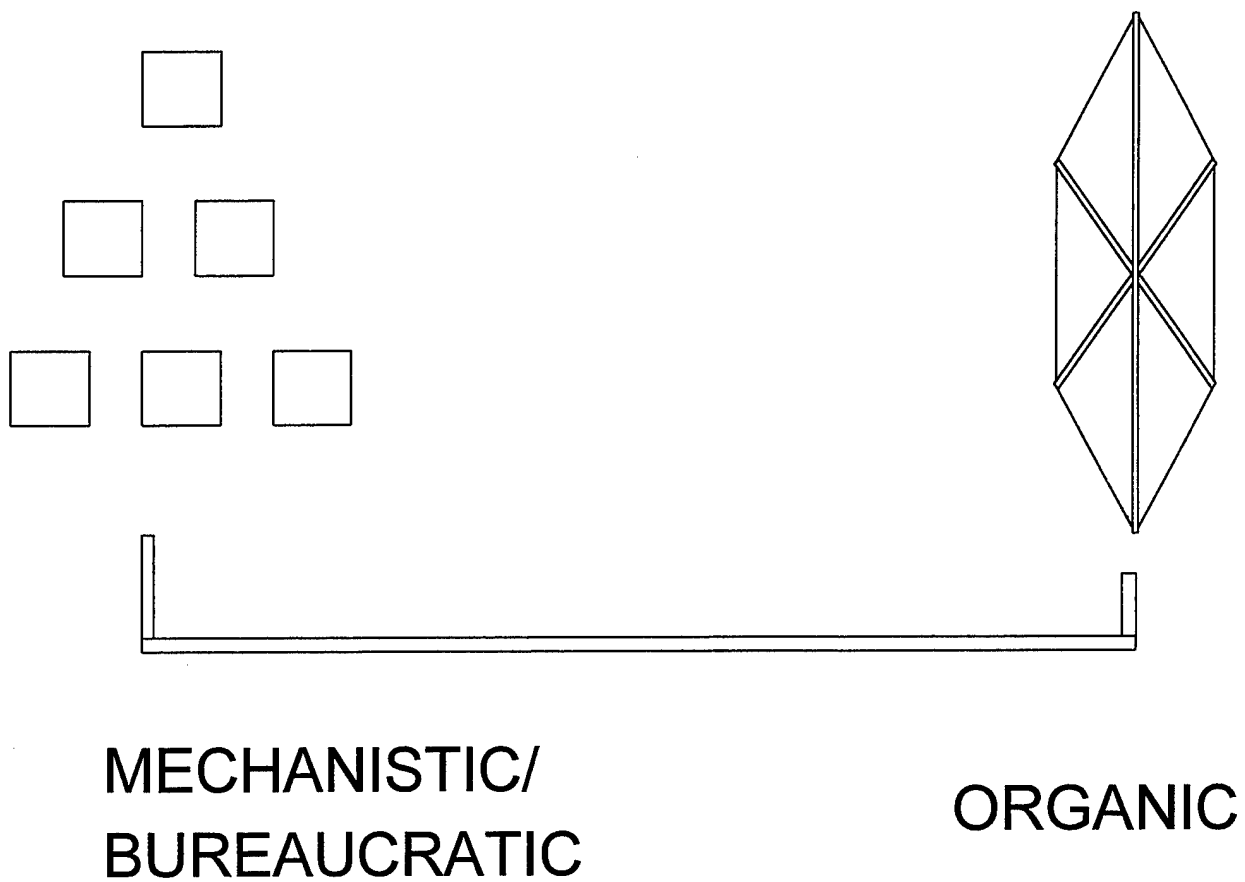depicts the extent to which these designs are opposed.

**MECHANISTIC/
BUREAUCRATIC**

ORGANIC

Figure 3. Continuum of Organizational Designs

Mechanistic (Hierarchical) Organization

As Robey (1986) states, "applying the term mechanistic to organizations brings to mind a machine-like system designed for efficient operation." A description of the specific characteristics of this model are found in Figure 4. According to Gifford Pinchot and Elizabeth Pinchot in "The End of Bureaucracy and the Rise of the Intelligent Organization",

> The bureaucratic organization is structured as a pyramid with an absolute boss on top who divides up the overall task of the organization and gives responsibility for each subtask to subbosses who divide responsibility yet more finely and so on through an unbroken chain of sub-subbosses that stretches down to every employee (Pinchot and Pinchot 1994).

Bureaucracy also achieves efficiency through specialization of labor by dividing the overall task into a series of well-defined specialties or functions (Pinchot and Pinchot 1994). The formal structure of the Institutional Army as we know it today, is that of a mechanistic or bureaucratic organization (AR 10-5 1992). Figure 5 describes why this design is no longer relevant.

Organic Systems

As an alternative to the mechanistic model, Robey (1986) cites the organic system which is more like a living organism than a machine. Wheatley agrees and states

> Organizations are not machines but complex living systems...networks of relationships that thrive on information and are capable of reorganizing themselves in response to dramatic changes in the environment (Wheatley 1994).

In examining the characteristics of an organic organization, it is easiest to consider them the opposites of each of the "ideal" characteristics present in a bureaucracy.

> While the mechanistic system has highly structured roles, a job description in an organic system might essentially consist of the statement "Do what you think is necessary to get the job done." Where expertise necessary for

	Mechanistic	Organic
Characteristics	Jobs narrow in scope. Rules and procedures. Clear responsibilities. Hierarchy. Objective reward system. Objective selection criteria. Official and impersonal.	Broadly defined jobs. Few rules or procedures. Ambiguous responsibilities. Diffuse channels. Subjective reward system. Subjective selection criteria. Informal and personal.
Conditions	Task and goals are known. Divisible tasks. Simple task. Valid performance measures obtainable. Employees responsive to monetary rewards. Authority accepted as legitimate.	Task and goals vague. Indivisible tasks. Complex task. Valid performance measures unobtainable. Employees motivated by complex needs, some intrinsic. Authority challenged.

Figure 4. Summary of the Characteristics and Conditions for Mechanistic and Organic Structures

What Bureaucracy is	Why it Once Triumphed	Why it Fails Now	What Replaces it
Hierarchical chain of command	Brought simple large-scale order Bosses brought order by dominating subordinates	Cannot handle complexity Domination not best way to get organization intelligence	Visions and values Teams (self-managing) Lateral coordination Informal networks Choice Free intraprise
Specialization Organization by function	Produced efficiency through division of labor Focused intelligence	Does not provide intensive cross-functional communication and continual peer-level coordination	Multiskilling specialists and intrapreneuring Organization in market-mediated networks
Uniform rules	Created a sense of fairness Clearly established power of bosses	Still need rules, but need different rules	Guaranteed rights Institutions of freedom and community
Standard procedures	Provided crude organizational memory Able to use unskilled workers Overcame old ways	Responds slowly to change Does not deal well with complexity Does not foster interconnection	Self-direction and self-management Force of the market and ethical community
A career of advancing up the ladder	Bought loyalty Furnished continuity of elite class of managers and professionals	Fewer managers needed and more educated workforce expects promotions; therefore, not enough room for advancement	A career of growing competence A growing network to get more done More pay for more capabilities
Impersonal relations	Reduced force of nepotism Helped leaders enforce tough discipline and make tough decisions	Information-intensive jobs require in-depth relationships	Strong whole-person relationships Options and alternatives Strong drive for results
Coordination from above	Provided direction for unskilled workers Furnished strong supervision required by rapid turnover in boring jobs	Educated employees are ready for self-management	Self-managing teams Lateral communications and collaboration

Figure 5. Revolutionary Change in the Structure of our Relationships

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task completion is widely dispersed, the authority of lower levels is increased. "You're the expert; you decide" is a common authoritative direction in an organic system. Also, in the absence of clear performance standards, employees may be guided by self-motivation and intrinsic rewards, rather than by an elaborate system of formal controls (Robey 1986).

Figure 4 above, contrasts the specific characteristics of the organic organization to the

mechanistic organization.

In addition to the working conditions and job characteristics addressed by Robey

(1986) and the Pinchot's (1994), Ron Cacioppe (1989) cites the success of an organic

organization in an uncertain environment. According to Cacciope (1989),

> When the strategic plans of an organization result in it operating in a highly dynamic, changing and uncertain environment, the organization should be more organic. Its structures, measurement systems, and human-resource systems should be informal. The culture and technology should be flexible, and the organization should support innovative and risk-taking behavior (Cacioppe 1989).

With the popularity of Senge's (1990) Fifth Discipline and the Pinchot's (1994) On the

Intelligent Organization, it appears that organic organizations seem to provide a viable

alternative to organizations like the US Army, that are seeking more flexibility in their

structure without losing their cultural heritage. To summarize this point, the Pinchot's

observe that

> As the world becomes more complex, we need to think in terms of self-organization not only for large systems, such as national economies, but also for organizations as small as business firms, nonprofits, and government agencies. Our metaphors and analogies will shift from bureaucracy's mechanistic systems to those of inherently self-organizing systems such as living organisms and whole societies (Pinchot and Pinchot 1994).

Dynamic Network Organization

As discussed earlier in the study, information technology is linked to the demise of

hierarchical and bureaucratic institutions. The Joint Warfighting Center at Ft. Monroe,

Virginia has also recognized the impact of information technology on organizational design in its draft Warfighting Vision 2010 dated August 1995.

> The technological and nontechnological aspects of the information revolution set forces in motion that challenge how institutions are organizationally designed. It disputes and erodes the hierarchies around which these institutions are normally designed....The system linkages cross borders, and redraw the boundaries of organizations and their responsibilities...(VISION 2010 1995).

In order to maximize the use of information technology in the transformation of the Institutional Army, this paper focuses attention on the dynamic network organization (Figure 6), a recent adaptation of the organic organization to maximize technology. The dynamic network hinges on flexibility, and enables the organic system to maximize specialization (functional specialties) within and outside the organization (Barnatt 1995).

> Flexible specialization is a concept that at first appears paradoxical. After all, how can an organization be both "flexible" and "specialized"? By looking at the dynamic network model, however, the logic is revealed. Viewed in its entirety, a dynamic network is indeed a highly flexible organizational arrangement, capable of adapting rapidly to changing markets, technologies, and demand levels, via coupling agents into or out of its web. When we view the individual agents that service the network core, however, we discover that they are highly specialized in the service they render. Hence we have the concept of flexible specialization, with patterns of specialist agents coordinated by the core of a network that thereby becomes flexible in operation (Barnatt 1995).

Some elements which could comprise a dynamic network to support an organization such as the Institutional Army are:

> 1. Transaction Processing Systems (data collection) at the installation

level;

> 2. Management Information Systems (information processing) at all levels;
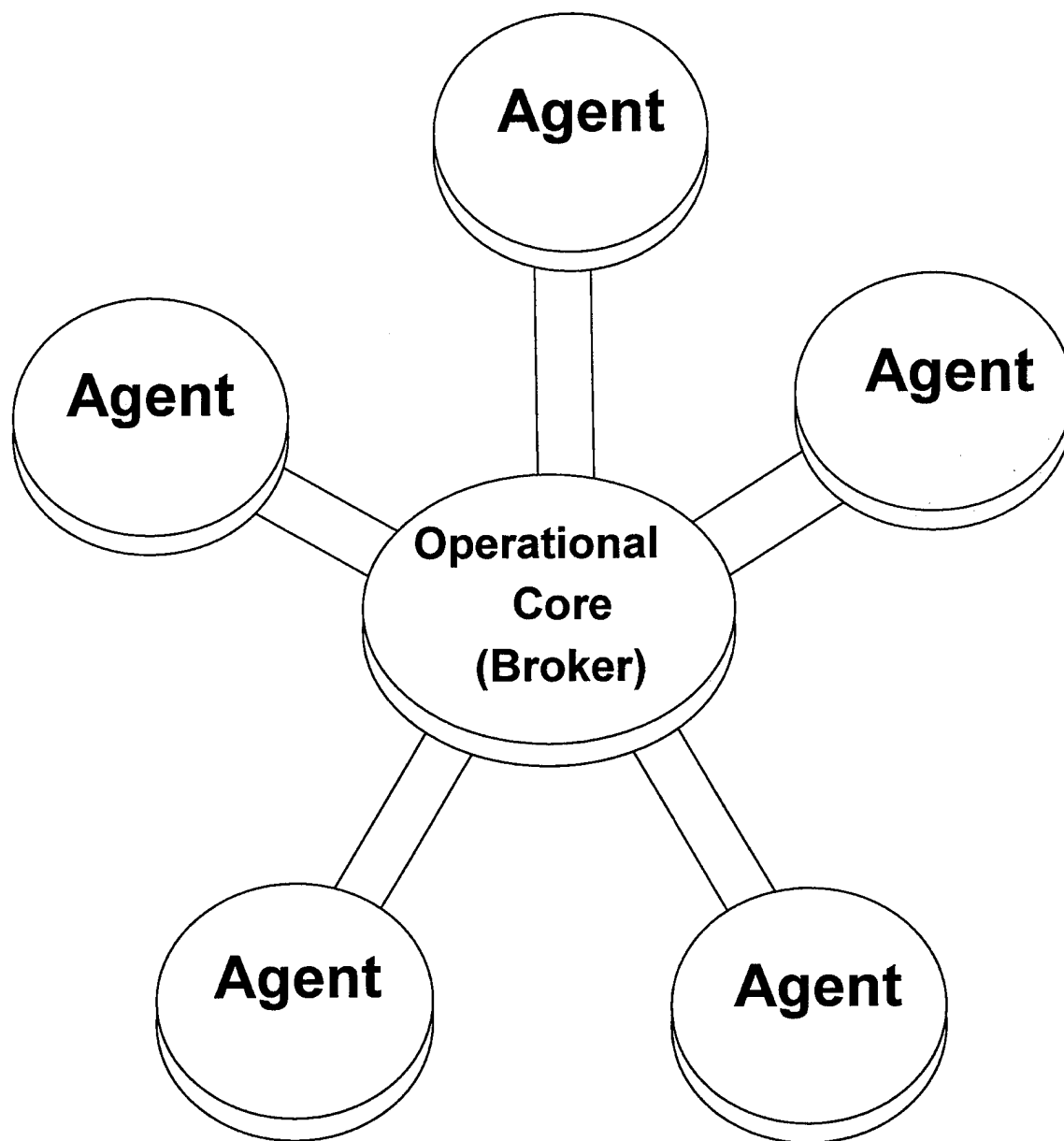
> 3. Decision Support Systems (decision tools) as desired;

Figure 6. The Dynamic Network

4. Executive Information Systems (high information content) at MACOMs and HQDA;

5. Office Automation Systems (word processing, facsimile, electronic mail, Internet) at all levels (Carr 1993).

Peter Drucker (1988), also predicts that information will enable the flattening of organizations.

> Almost immediately it becomes clear that both the number of management levels and the number of managers can be sharply cut. The reason is straightforward: it turns out that whole layers of management neither make decisions nor lead. Instead, their main function is to serve as "relays"--human boosters for the faint, unfocused signals that pass for communication in the traditional pre-information organization (Drucker 1988).

Based upon the consideration of the above designs and management considerations, the contingency theory appears to provide a means to examine whether a particular organizational model is suited to the basic contingencies that it faces.

Contingency Theory

As described in the glossary, the contingency theory allows the flexibility to examine and select aspects of an organizational design that suit so-called contingency factors. Two contingencies commonly used to measure the fit of an organizational model are task uncertainty and organization size (Robey 1986).

1. Task uncertainty affects the extent to which task activities can be preplanned or structured; hence it is considered a critical condition affecting organization design decisions (Robey 1986). Both mechanistic and organic systems can adapt to deal with task uncertainty as illustrated by the structural variations shown in Figure 7. According to Robey (1986), one reason that mechanistic designs persist in government, is

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Organizational choices

Consequences of choices

Adjustments to mechanistic form

Task uncertainty

Contingency rules to cover exceptions Hierarchy Narrow span of control Staff to support hierarchy

Positive Maintenance of control over behavior Negative Excessive administra-tive cost and "red tape"

Organic approaches

Increase discretion Expand communication net Hire "professionals" Use performance goals

Positive Rapid response to uncertainties Negative Loss of control

Figure 7. Structural Variations to Cope with Task Uncertainty

the perceived need to maintain control over taxpayers' dollars. However, Robey (1986) further states that in a task uncertain environment, this results in more rules, taller hierarchies and the proliferation of lateral staffs. On the other hand, the organic system would avoid this proliferation by allowing the people who perform the tasks to handle the uncertainty themselves (Robey 1986).

a. Flow of Information. In order to make good decisions in the organic model, employees need to have the information needed to make good decisions. Whereas in the mechanistic model the information is obtained from the lateral staff, in the organic model the employee is able to expand his technical knowledge through the use of the expanded communication network (Robey 1986).

b. Professionalization/Performance Standards. Other ways that the organic organization deals with task uncertainty are through professionalization of the workforce and the use of performance goals. In short, the professional status enables employees to deal with the necessary self-control to be a contributor to the organization (Robey 1986). According to Robey (1986), the basic premise of the organic organization is to reduce rules, hierarchy and staff by relying upon the expert judgments of persons carefully selected for the task. However, the loss of procedural control and the higher cost of professional personnel are the main disadvantages or costs of organic designs.

2. Organization size is the second contingency for consideration when evaluating the suitability of an organizational design. Although the Institutional Army will be much smaller than it is today, it will still be a large organization.

There is rather consistent empirical evidence that size and bureaucratic structure go hand in hand. This is reflected in the specialization of tasks,

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specialized departments at upper levels and the subsequent need for control and coordination (Robey 1986).

Evidence shows (Robey 1986), that even though size may be the dominant factor in large organizations, it neglects to examine what occurs when size and task uncertainty are interactive. "The small amount of research which jointly considers task and size effects, points rather strongly to interactive effects between size and task uncertainty (Robey 1986)." According to Robey (1986), in evaluating the impact of size and task uncertainty, it is necessary to discard the notion of "imperative"...the idea that size or task uncertainty necessarily affect organizations. Rather attention should be placed on the managerial actor who decides how an organization will be structured.

> The design of organization is, therefore, not subject to simple direct imperatives. While size and task uncertainty have been identified as basic contingencies, managers may choose from a rather broad array of alternatives to designing any specific organization (Robey 1986).

Conclusions

The following conclusions have been drawn from the above literature review as it pertains to the redesign of the Institutional Army. The discussion and analysis support the premise that the Institutional Army can become an organic learning organization, and that this design would serve it well in supporting Force XXI. The flattening of the organization; elimination of unnecessary rules and regulations; the free flow of information through the dynamic network; the professionalization of the workforce; and the use of performance standards would enable the Army to respond effectively to an uncertain environment. It would also maximize scarce resources. Several figures are provided below to illustrate Army applications of the following conclusions.

Chaos Theory

Elements of the Chaos theory and the chaordic organization are relevant to the Institutional Army just as they are to other modern organizations. For instance:

1. Ownership of the organization by all participants is similar to all participants sharing and contributing to a shared vision. The Institutional Army can achieve this shared vision.

2. Distribution of governance, power and function relaxes the need for tight command and control and flattens the hierarchy. Considering the Army's culture and core values discussed above, and the examples of the Army's operating and Special forces, it appears that the foundation for relaxing command and control already exists.

3. The use of dynamic networks as discussed below will enable the organic Institutional Army to be infinitely malleable and durable. It is the opinion of the researcher that the five principles of the chaordic organization (Hock 1995) are within the reach of the Institutional Army.

Foundation - Army Culture

As stated by Builder (1989) the Army culture and underlying values of duty, integrity and selfless service, provide the foundation upon which the Army draws its strength. As depicted in Figure 2 and stated by Shein (1989), this culture permeates and brings consistency to all aspects of the Army. The Institutional Army can maximize this strong foundation, allowing it to relax command and control, and eliminate rules, hierarchy, and staffing within the organization. Similar to that of USSOCOM, the Army culture permits an environment of trust, enabling the workforce to act in accordance with

its core values. However, the Army can improve certain aspects of its culture, if it is to maximize this innate strength. The Army should continue efforts to professionalize and harmonize the roles of the civilian and military components, holding them accountable to the same values. Only in this way, will all members of the workforce possess the desired ethos to achieve the shared vision. Also, adding innovation or creativity, as an Army value should foster creative thinking and support a climate that rewards those who seek efficiencies.

A Learning Institutional Army

The disciplines of the learning organization offer much to the Army redesign. As discussed above, the Army culture provides a basis for trust, connectedness, personal vision, and commitment to the truth, defined as personal mastery by Senge (1990). Also, a holistic systems approach to reengineering Title 10 core functions would focus and streamline management practices. Figure 8 uses this systems approach to depict all levels of the Institutional Army, focused on the Army shared vision and common purposes. The common purpose for HQDA "Direct, Acquire and Resource the Force" is depicted as a circle of causality, as is the MACOMs common purpose of "Develop, Generate and Project, Sustain a Trained and Ready Land Component".

Information Age Technology/Dynamic Networks

It is clear from the readings by Hock (1995), Wheatley (1994), Barnatt (1995), that information technology is inherent to future organizations. The dynamic network model adapted to the organic system, would appear to provide the Institutional Army with the flexibility and responsiveness needed to respond to its external environment. A dynamic network would enable the Army to maximize use of its specialized functions

Shared Vision and Purposes

Army Vision

TITLE 10 -Core Capabilities
(Systems approach)

Shared Purpose
Shared Values

Congress

Pres

Acquire

Public

HQDA

OSD

JCS

Direct

Resource the force

Private Sector

Develop

Jointness

Component

TRADOC AMC

FORSCOM

MACOMS

Ready Land Component

Inter-Service

Generate & Project

AC/RC

Administer	Construct	Service
Equip	Supply	Maintain
Recruit	Train	Organize

A Trained

Sustain

CINCs

Installations

- Train
- Manage
- Service

- Maintain
- Supply

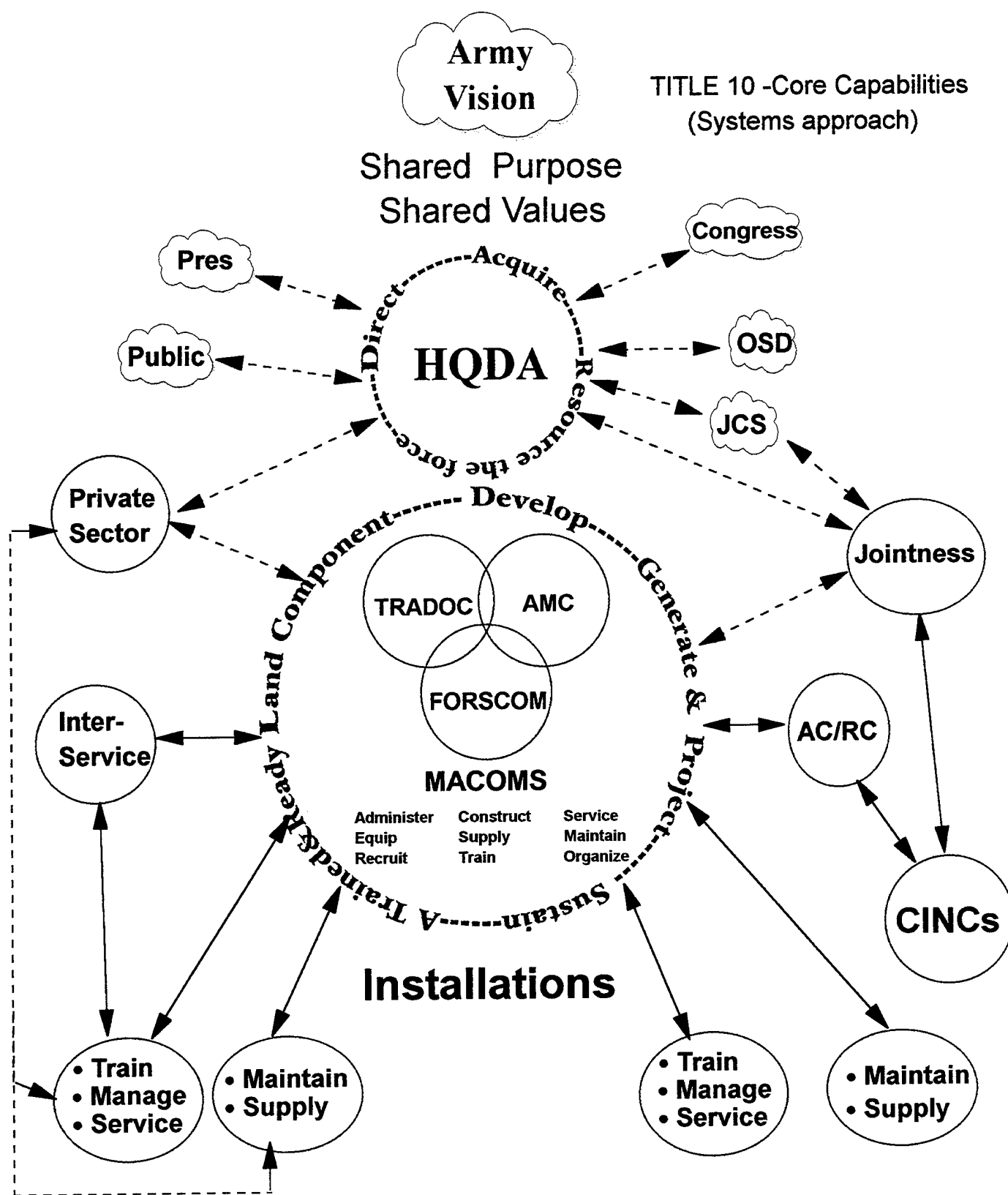- Train
- Manage
- Service

- Maintain
- Supply

Figure 8. Systems Thinking, Institutional Army

(logistics, engineering, resource management, acquisition) through the creation of flexible and specialized teams within the organization. Including other Services, contractors, and agencies outside the Army would also enable their participation on a flexible basis. These networks and flexible partnerships would enable the Army to evolve and reorganize itself as the environment demands. These partnerships should also lead to a maximization of resources. Likewise, as discussed by Drucker (1988), the sharing of information throughout all levels of the Army, should diminish the need for middle management and lateral staffs, such as FOAs and SSAs.

Figure 9 illustrates an organic design for all levels of the Institutional Army. The dynamic networks connect all organizational levels and processes, to provide shared information and reinforce a systems approach to Army management. In Figure 9 the Army functional staff elements are located at the outer points of the organic structure at each organizational level (similar to the HQDA design reflected in Figure 10). Although the organic structure is flat, all staff elements would report to leadership, at the center of each level.

Figure 10 depicts an organic HQDA structure, with all staff elements located at the outer edge of the organization, reporting to Army leadership in the center and connected by a dynamic network. The grouping of HQDA elements in this illustration is adapted from the HQDA Redesign (HQDA Redesign Update Nov. 1995) option, which consolidates elements of the Army Secretariat and the Army Staff. Small special staff functions are grouped into one element tied into the network and reporting directly to Army leadership. A reduced number of FOA/SSAs are also networked. The dynamic
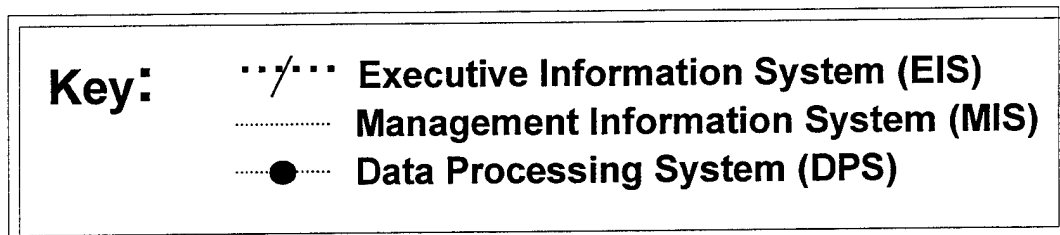
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Key:
- ··/·· Executive Information System (EIS)
- ———— Management Information System (MIS)
- —●— Data Processing System (DPS)
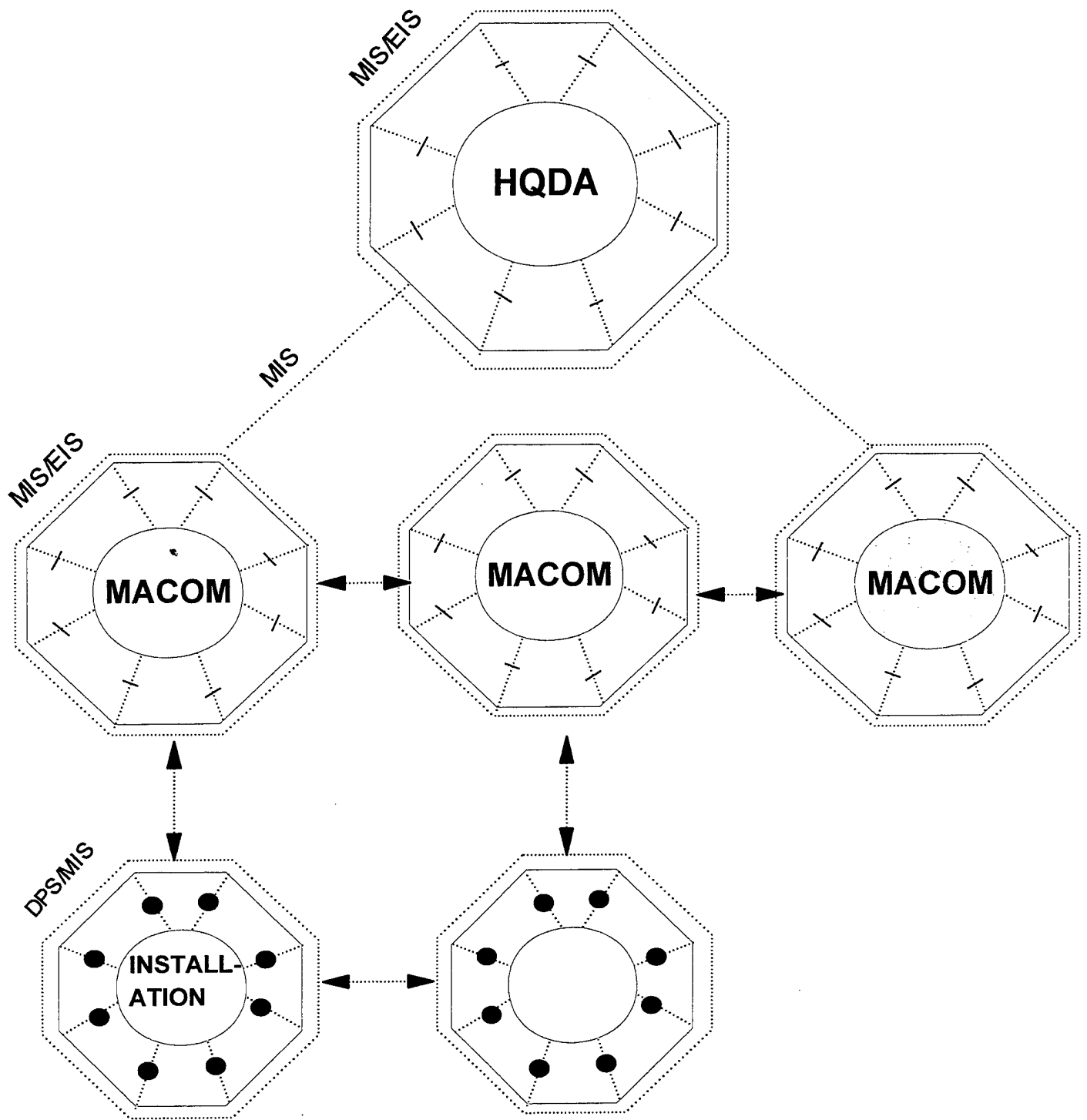
Figure 9. Dynamic Networks, Organic Institutional Army

ASA (MRA)
DCSPER

SSA
FOA

ASA (RDA)

DISC4
DCSINT

ASA (CWIL & E)
ACSIM
DCSLOG/OCE

SEC ARMY
USA
CSA/VCSA
DAS

ARNG

ASA (FM & C)

CAR

DCSOPS

CHAP

OCLL

PA

Key:

─/─ Executive Info System
• Systems Integration
• Dynamic Team
  Networks
• Consolidates Secretariat/
  Army Staff

TJAG

TAG

TIG
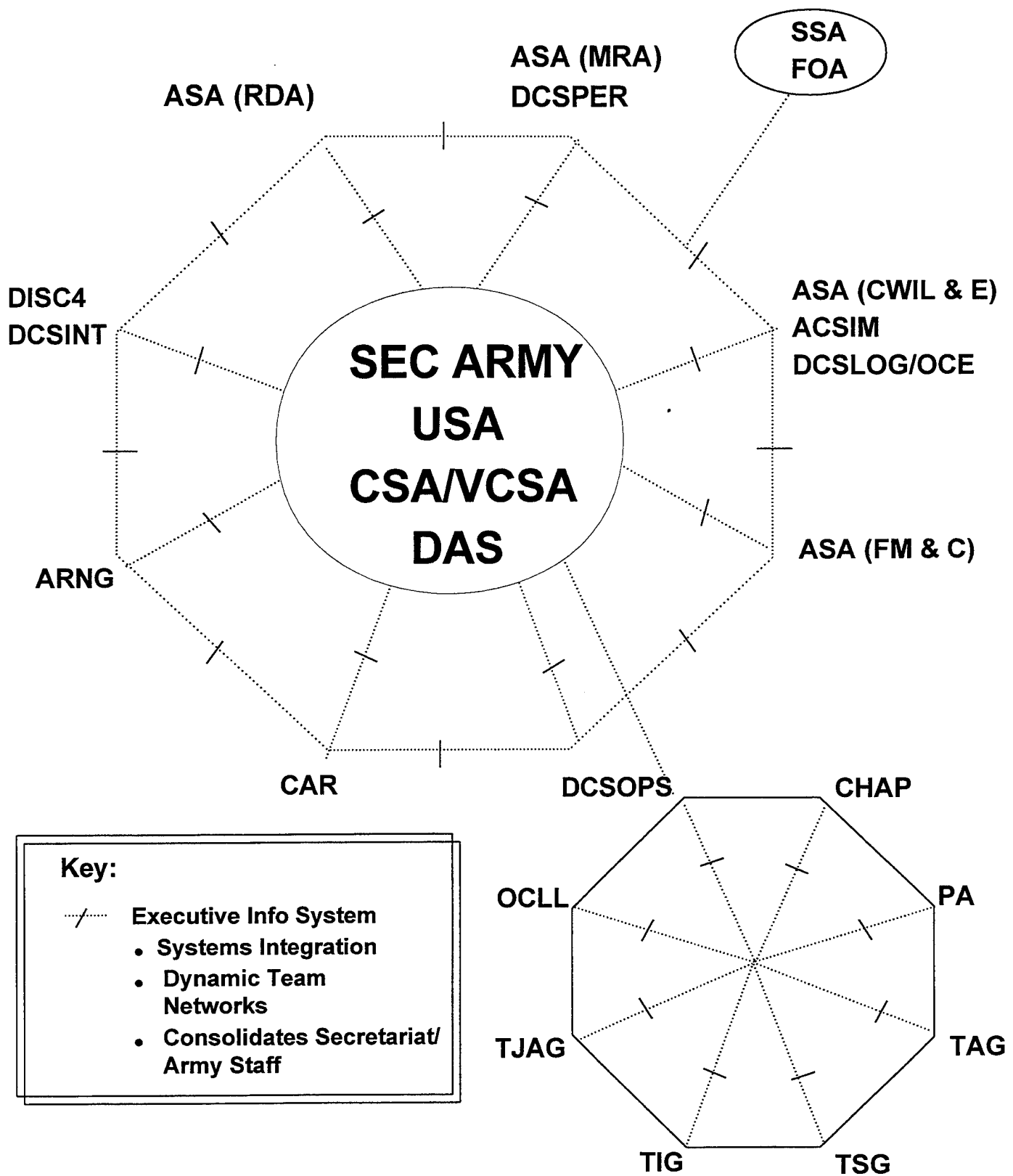
TSG

Figure 10. Organic Design Headquarters Department of the Army

network also connects external partners such as the Services, DoD, JCS, Contractors, and other agencies into the flexible team arrangement.

Army Workforce

Based on the literature, it appears that team work and professionalism will be requisite to future successful organizations. In order to achieve the high levels of professionalism (Robey 1989) and personal mastery (Senge 1990) discussed above, the Institutional Army would have to build upon the examples of its Warfighting forces. Performance standards would be necessary to measure accomplishment of tasks; and reward systems would need to be oriented toward team performance. The creation of a highly motivated and trained workforce, would enable the Institutional Army to respond to the needs of the Warfighting forces and the Army soldier.

Recommendations

The matrix at Figure 11 summarizes recommendations to transform the current Institutional Army to an organic organization. Key features of the transformed institution would be:

A Values-based Learning Organization focused on a Shared Vision;

A flexible, team-based Organic Organization, characterized by dynamic and specialized teams configured to meet the demands of the environment;

An Information-based Organization, supported by Dynamic Networks providing information to all levels of the Army;

A Systems Thinking Organization which uses a holistic systems approach in the design of its systems and the solution of problems;

Transformation Elements	Current Inst Army	Organic Inst Army	Recommended Changes
Army Culture Values-Based Organization	Strong Mil Core Values. Strong Mil Duty Ethos.	Strong Mil/ Civ Values. Strong Mil/Civ Duty Ethos. Fosters Innovation.	Professionalize Civ/Mil; hold both to Ethos. Strong Values-Based Culture is Foundation for Organic Army. Recognize Innovation as Army Value.
Shared Vision Common Purposes	Not Highly Visible/ Articulated.	Focus and Purpose of Inst Army.	Leadership Shares/Articulates Vision and Common Purposes throughout Inst Army.
Systems Thinking	Linear Stovepipes. Lack integration & holistic approach.	Holistic Thinking. Systems Approach. Integration. Circles of Causality.	Reengineer/Streamline Systems. Seek Holistic Systems. Leverage improvements in largest payback areas.
Personal Mastery	Professional Military serving for Altruistic reasons.	Professional Military/Civilian Serving for Altruistic reasons	Continue to enhance training, status, recognition of Civilian Component. Professionalize.
Dynamic Networks	Large Database Systems. PC office automation.	Provides access and Shares Information at all levels of Army. Provides Access to Specialized Teams.	Network Army through the use of DPS, MIS, DSS, EIS, EMAIL, Internet. Share information at all levels of Army allowing for creation of flexible teams. Include external partners (other Services, private sector) in networks.
Leadership	Hierarchical. Tight Command and Control. Total Army Quality Program.	Distributes Power. Lessens Command and Control. Creates Trust. Sets Standards.	Study US Special Operations Leadership Style. Eliminate Layers of Supervision. Trust Professionals. Set Standards; Establish Controls.
Team Learning	Operating Force Built on Teams. Inst Army not Built on Teams. Stovepipe specialists. Individual-Based Performance Standards.	Enables Self-Managing Teams. Flexible Specialists. Team-Based Performance Standards.	Bring Teamwork to Inst Army. Maximize multi-trained, multi-skilled workforce. Reward Performance using Team-based standards.

Figure 11. Matrix of Recommended Changes for Transformed Institutional Army

A Professional Workforce representing all Components of the Total Army, challenging all its members to contribute equally to the Army vision.

This transformation may require years to accomplish, and undoubtedly would require implementation by a team well-trained in organizational change. Hopefully, the end result would revitalize the Institutional Army and enrich its capacity to respond to Force XXI. One irony that has occurred to the researcher during this project, is that the architect of the Pentagon, may have designed this building in an organic shape, to facilitate sharing of information and teamwork among its residents. Today and in the future, these will be essential to the Army's success!

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